

What is claimed is:

1. A CAM system, comprising:

an NC apparatus for machining a work according to NC data;  
5 cutting margin model generating means for obtaining a CAD model that is solid model data of a metal mold to be made and a measured work geometric model that is geometric model data of said work, which is obtained by measuring said work to be machined, and generating a cutting margin model that is a difference between said measured work  
10 geometric model and said CAD model; and

NC data generating means for generating NC data based on the generated cutting margin model.

2. The CAM system as set forth in claim 1, wherein said NC data  
15 generating means generates NC data to machine said work by a predetermined cutting depth at a portion in which said cutting margin exists, and NC data to cause a tool to move without machining at a portion in which said cutting margin does not exist.

20 3. The CAM system as set forth in claim 1, further comprising:

means for measuring a tool form in a state in which said tool is installed to said NC apparatus, and generating a tool model, and  
wherein said NC data generating means generates said NC data based on both of said cutting margin model and said tool model.

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4. The CAM system as set forth in claim 1, further comprising:

means for outputting an instruction so as to move a tool in either of a tool axis direction and a Z-axis direction, to said NC apparatus, according to a tool load state informed from said NC apparatus.

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5. The CAM system as set forth in claim 1, further comprising:

storing means for storing data informed from said NC apparatus as monitoring data; and

means for displaying said measured work model, which is colored

based on load data in said monitoring data stored by said storing means.

6. A CAM program embodied on a medium for causing a computer connected to an NC apparatus for machining a work according to NC data, said  
5 program comprising:

obtaining a CAD model that is solid model data of a metal mold to be made and a measured work geometric model that is geometric model data of said work, which is obtained by measuring said work to be machined;

10 generating a cutting margin model that is a difference between said measured work geometric model and said CAD model; and

generating NC data based on the generated cutting margin model.

7. The CAM program as set forth in claim 6, wherein said generating  
15 NC data comprises generating NC data to machine said work by a predetermined cutting depth at a portion in which said cutting margin exists; and

generating NC data to cause a tool to move without machining at a portion in which said cutting margin does not exist.

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8. The CAM program as set forth in claim 6, further comprising:

measuring a tool form in a state in which said tool is installed to said NC apparatus, and generating a tool model, and

25 wherein said generating NC data comprises generating said NC data based on both of said cutting margin model and said tool model.

9. The CAM program as set forth in claim 6, further comprising:

30 outputting an instruction so as to move a tool in either of a tool axis direction and a Z-axis direction, to said NC apparatus, according to a tool load state informed from said NC apparatus.

10. The CAM program as set forth in claim 6, further comprising:

storing data informed from said NC apparatus as monitoring data; and

displaying said measured work model, which is colored based on load data in the stored monitoring data.

11. A method for controlling a CAM system, comprising:

- 5        obtaining a CAD model that is solid model data of a metal mold to be made and a measured work geometric model that is geometric model data of a work, which is obtained by measuring said work to be machined;
- generating a cutting margin model that is a difference between said measured work geometric model said CAD model; and
- 10        generating NC data based on the generated cutting margin model.

12. The method as set forth in claim 11, wherein said generating NC data comprises generating NC data to machine said work by a predetermined cutting depth at a portion in which said cutting margin exists; and

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         generating NC data to cause a tool to move without machining at a portion in which said cutting margin does not exist.

13. The method as set forth in claim 11, further comprising:

- 20        measuring a tool form in a state in which said tool is installed to an NC apparatus, and generating a tool model, and
- wherein said generating NC data comprises generating said NC data based on both of said cutting margin model and said tool model.

25    14. The method as set forth in claim 11, further comprising:

         outputting an instruction so as to move a tool in either of a tool axis direction and a Z-axis direction, to an NC apparatus, according to a tool load state informed from said NC apparatus.

30    15. The method as set forth in claim 11, further comprising:

         storing data informed from an NC apparatus as monitoring data; and

         displaying said measured work model, which is colored based on load data in the stored monitoring data.